

Appl. No. 10/708,448  
Docket No. 41PR-133546/GEN-0350

## REMARKS / ARGUMENTS

### Status of Claims

Claims 1-23 are pending in the application and stand rejected. Applicant herein provides clarifying remarks, leaving Claims 1-23 for consideration by the Examiner.

Applicant respectfully submits that the rejections under 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

### Rejections Under 35 U.S.C. §103(a)

Claims 1-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Aihara et al. (U.S. Patent No. 6,480,082, hereinafter Aihara) in view of Castonguay et al. (U.S. Patent No. 4,884,048, hereinafter Castonguay) and Kaneko et al. (U.S. Patent No. 6,084,912, hereinafter Kaneko).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest *each and every element* of the instant invention *in such a manner as to perform as the claimed invention performs*. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Emphasis added). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Furthermore, the mere fact that References can be combined or modified does not render the resultant combination obvious unless the prior art also suggests *the desirability of the combination*. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Emphasis added). Applicant respectfully submits that "to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination

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that was made by the applicant.” *In re Werner Kotzab*, CITATION (citing: *In re Dance*, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). There must also be a *reasonable expectation of success* in modifying or combining the prior art, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 USPQ2d 1016, 1023 (Fed. Cir. 1996) (Emphasis added). And, there must be some *degree of predictability* in showing the reasonable expectation of success. *In re Rinehart*, 189 USPQ 143 (CCPA 1976) (Emphasis added); MPEP §2143.03.

In addition, Applicant respectfully submits that the Examiner cannot establish obviousness where nothing in the References alone or together suggests the claimed invention as *a solution to the problem disclosed* in the instant application. That the claimed invention may employ known principles does not itself establish that the invention would have been obvious. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d at 1462, 221 USPQ 481 at 488. It is not enough to merely consider similar known principles employed by the claimed invention and the prior art, it is the claimed invention as a whole and the problem being solved that must be viewed in light of the prior art.

Regarding independent Claims 1, 13 and 18

Applicant recites, inter alia,

“... wherein the electromagnetic trip unit is configured to be operably responsive to *a first half-cycle waveform* of the short circuit current *prior to* the electronic trip unit being operably responsive to *a subsequent second multi-cycle waveform* of the short circuit current, each of the electromagnetic trip unit and the electronic trip unit being operably responsive by being capable of sending a trip signal to the operating mechanism *in response to the first half-cycle waveform and the second multi-cycle waveform, respectively.*”

In respectful disagreement with the Examiner, and contrary to the Examiner’s allegation, Applicant finds the combination of Aihara, Castonguay and Kaneko to be

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absent any teaching or suggestion of *the electromagnetic trip unit being configured to be operably responsive to a first half-cycle waveform of the short circuit current prior to the electronic trip unit being operably responsive to a subsequent second multi-cycle waveform of the short circuit current, each of the electromagnetic trip unit and the electronic trip unit being operably responsive by being capable of sending a trip signal to the operating mechanism in response to the first half-cycle waveform and the second multi-cycle waveform, respectively.*

Dependent claims inherit all of the limitations of the respective parent claim.

At Figure 8 and the accompanying description at Paragraphs [0024-0027], Applicant describes *an electromagnetic trip unit capable of sending a trip signal to the operating mechanism in response to the first half-cycle waveform*, and an electronic trip unit capable of sending a trip signal to the operating mechanism in response to the second half-cycle waveform. Additionally, Applicant claims and describes *the electromagnetic trip unit being configured to be operably responsive to a first half-cycle waveform of the short circuit current prior to the electronic trip unit being operably responsive to a subsequent second multi-cycle waveform.*

In the claimed invention, Applicant specifically claims a performance characteristic wherein the electromagnetic trip unit is responsive to the first half-cycle waveform to send a trip signal to the mechanism *prior to* the electronic trip unit being responsive to the subsequent second multi-cycle waveform.

In respectful disagreement with the Examiner's allegation of obviousness, Applicant finds no such relationship in Aihara, Castonguay and Kaneko, and submits that the combination of References fail to teach or suggest each and every element of the claimed invention in such a manner as to perform as the claimed invention performs.

In alleging obviousness, the Examiner combines Aihara and Castonguay, acknowledges that Aihara does not disclose the electronic trip unit being in signal communication with each individual phase and the electromagnetic trip unit being responsive within the first half-cycle and the electronic trip unit being responsive to a second multi-cycle waveform of the short circuit current, looks to Castonguay to cure a

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portion of this deficiency by disclosing a multiphase breaker having a current transformer for each of the phases, and then looks to Kaneko for disclosure of a trip device for a circuit breaker [figure 1] having an electromagnetic trip unit being responsive within the first half-cycle and the electronic trip unit being responsive to a second multi-cycle waveform of the short circuit current [figures 5-7, column 5, line 49-column 6, line 25]. Paper 081905, page 3.

In applying Kaneko, the Examiner makes a broad reference to "the electronic trip unit being responsive to a second multi-cycle waveform of the short circuit current [figures 5-7, column 5, line 49-column 6, line 25]". However, Applicant finds no reference to an electronic trip unit in Kaneko. On the other hand, if it is the Examiner's contention that it is the electronic trip of Aihara or Castonguay that is being referenced, Applicant finds no teaching in the References as to how the electromagnetic trip unit of Kaneko (described at column 4, lines 35-38, as having a thermally operated component and a magnetically operated component) is configured to respond in cooperation with the electronic trip unit of Aihara or Castonguay in such a manner as to perform as the claimed invention performs.

Furthermore, at Column 6, lines 17-20, Applicant finds Kaneko to teach "...the trip device *does not operate* at FIRST PEAK, but the trip device operates at SECOND PEAK...". Emphasis added.

This teaching is exactly opposite to the claimed invention.

The claimed invention is directed to *the electromagnetic trip unit being responsive to the first half-cycle waveform* to send a trip signal to the mechanism *prior* to the electronic trip unit being responsive to the subsequent second multi-cycle waveform.

Conversely, Kaneko is directed to a trip device (collectively a thermally operated component and a magnetically operated component) that *does not respond* to the first half-cycle waveform (FIRST PEAK).

Accordingly, Applicant submits that not only does Kaneko not teach the claimed invention, but Kaneko teaches away from the claimed invention.

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Additionally, and at paragraph [0026], Applicant describes a problem that may be associated with electronic trip unit 130 that results from the saturation and hysteresis characteristics of current transformer 140, and then describes how the claimed invention solves this problem.

Applicant finds the combination of Aihara, Castonguay and Kaneko to be absent any teaching, suggestion or motivation that is directed to this problem and solution.

By looking to Kaneko to cure the deficiencies of Aihara and Castonguay, the Examiner has failed to show where the motivation may be found to make such a combination for the purpose of performing as the claimed invention performs.

At page 3 of the instant office action, the Examiner alleges that it would have been obvious to use the multi current transformer of Castonguay with Aihara for the purpose of providing improved trip response, and that it would have been obvious to use the tripping technique of Kaneko with that of Aihara as modified in order to reduce nuisance tripping yet retain a quick response time.

On the one hand, the Examiner appears to be looking to Aihara and Castonguay for improving the trip response, while then looking to Kaneko to slow down the trip response so that it is not responsive to the first half-cycle. By modifying Aihara and Castonguay in view of Kaneko, Applicant finds the modification to result in a performance characteristic that is in a direction opposite to that of the claimed invention.

Furthermore, Applicant finds Aihara to be primarily concerned with electrical isolation between an accessory installation area and a main circuit area (Abstract and column 8, lines 40-49), finds Castonguay to be primarily concerned with automatically aligning current transformer pins with a printed circuit board via tapered through holes in an intermediate cover (Column 1, lines 41-46), and finds Kaneko to be primarily concerned with slowing down the responsiveness of a trip device so that it does not respond to the first peak of a short circuit current waveform (Column 6, line 17-21).

In comparing the problems addressed by Aihara, Castonguay and Kaneko with the problem recognized and solved by the instant invention, Applicant finds no teaching, suggestion, or motivation to combine Aihara, Castonguay and Kaneko for the purpose of

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arriving at the claimed invention, which addresses a problem only recognized and solved by the instant application and claims.

Regarding Claim 2 Specifically

Claim 2 recites, inter alia,

"... the electromagnetic trip unit comprises *a magnetic actuator disposed at*, and in signal communication with, *each of the plurality of conduction paths* such that each magnetic actuator is individually in operable communication with the operating mechanism."

The Examiner alleges that Aihara discloses the electromagnetic trip unit including an electromagnetic actuator disposed at each of the plurality of phases (Figure 4b). Paper 081905, page 3.

Applicant respectfully disagrees.

At the outset, Applicant finds Figure 4b to disclose only one phase of a multi-phase circuit breaker, and therefore cannot without more teach or suggest each and every element of the claimed invention.

In addition, Applicant finds Aihara to teach interior accessories 80 that are installed on both sides of mechanism portion 3. Column 7, lines 16-20, and Figure 8. With reference to Aihara Figure 8, Applicant submits that interior accessories 80 occupy a space in the multi-phase breaker that electromagnetic trip unit (Figure 3) would want to occupy if there were one electromagnetic trip unit per phase. However, absent a teaching in Aihara of multiple electromagnetic trip units, Applicant submits that Aihara discloses only one electromagnetic trip unit, and therefore cannot properly be used to establish a prima facie case obviousness.

Regarding Claims 11 and 23 Specifically

Claim 11 recites, inter alia,

"... the electromagnetic trip unit comprises *a single trip bar that is common to all of the three phases* within the housing, *each phase of the trip bar having a separate magnetic armature disposed thereat*."

Claim 23 recites, inter alia,

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“... the electromagnetic trip unit comprises *a single trip bar common to all phases wherein each phase of the trip bar has a separate magnetic armature disposed thereat.*”

The Examiner alleges that Aihara discloses the electromagnetic trip unit having a trip bar [3] that is common to all of the phases and each phase having a separate armature disposed thereat [column 8, lines 50-67].

Applicant respectfully disagrees.

At the outset, Applicant finds reference numeral [3] of Aihara to be directed to an opening-closing mechanism (Column 8, lines 56-57), which is substantially different from the claimed trip bar of the electromagnetic trip unit of the instant invention.

In addition, while column 8, lines 50-67, may teach an electromagnetic trip unit (stationary core 51 and movable core 52, for example), Applicant finds Aihara to be absent any teaching of *a single trip bar common to all phases wherein each phase of the trip bar has a separate magnetic armature disposed thereat*, and the Examiner has not stated with specificity where such a teaching may be found in Aihara.

Contrary to the Examiner's allegation, Applicant finds Aihara to teach a single stationary core 51 and a single movable core 52, and to be absent any teaching of a single trip bar (not opening-closing mechanism) common to all phases wherein each phase of the trip bar has a separate magnetic armature disposed thereat.

If Applicant were to apply Aihara as suggested by the Examiner, one skilled in the art would result in and opening-closing mechanism [3] in combination with a single stationary core 51 and a single movable core 52, which is substantially different from the claimed invention that is directed to *a single trip bar common to all phases wherein each phase of the trip bar has a separate magnetic armature disposed thereat.*

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to recognize a problem

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recognized and solved only by the present invention, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

In light of the forgoing, Applicant respectfully submits that the proposed arguments comply with 37 C.F.R. §1.116 and should therefore be entered, and with their entry that the Examiner's rejections under 35 U.S.C. §103 have been traversed, and that the application is now in condition for allowance. Such action is therefore respectfully requested.



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The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 06-1130.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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